WHAT IS CLAIMED IS:

1.   An image forming apparatus comprising:

a scanner section which reads a document in a main scanning direction and in a sub-scanning direction to provide image data indicating a density of each pixel within a document image for each image line in the main scanning direction;

a storing section which stores the image data provided from the scanner section in a memory;

a density histogram creating section which takes in the image data provided from the scanner for each image line and creates a density histogram of the document image on the basis of image data corresponding to a predetermined number of image lines;

a correction reference value calculating section which calculates a set of correction reference values for pixel density correction using the density histogram created in the density histogram creating section;

a pixel density correcting section which reads out the image data stored in the memory and performs correction of a pixel density indicated by the image data on all the read image data using the set of correction reference values calculated in the correction reference value calculating section; and

image forming means which forms an image from the pixel density corrected in the pixel density correcting

section.

2. The apparatus according to claim 1, wherein the predetermined number of image lines is equal to or less that all image lines of the document image read out from the scanner section.

3. The apparatus according to claim 1, wherein the storing section comprises means which starts reading-out of data when data corresponding to the predetermined number of image lines has been stored in the memory.

4. The apparatus according to claim 1, wherein the density histogram creating section has means which keeps a total data amount of the density histogram constant irrespective of the number of image lines taken in.

5. The apparatus according to claim 1, wherein the correction reference value calculating section comprises means which detects two representative densities (D_B, D_W) of a background and a character of the document from the density histogram created by the density histogram creating section; and

the pixel density correcting section comprises means which corrects the input pixel density according to the following equation.

$$D_N = (D_I - D_W) * FF[H] / (D_B - D_W)$$

where D_I is an input pixel density, D_W is a repre-sentative background density, D_B is a representative

character density, FFh is the maximum density indicated
by hexadecimal number, and D_N is a corrected pixel
density.

6. An image processing system comprising:

a storing section which stores image data
indicating a density of each pixel within a document
image into a memory;

a histogram creating section which takes in the
image data indicating the density of each pixel within
the document image and creates a density histogram of
the document image on the basis of a predetermined
amount of image data;

a correction reference value calculating section
which calculates a set of correction reference values
for pixel density correction using the density
histogram created in the histogram creating section;
and

a pixel density correcting section which reads out
image data stored in the memory and corrects a pixel
density indicated by the image data regarding all
the image data read out using the set of correction
reference values calculated in the correction reference
value calculating section.

7. The system according to claim 6, wherein the
predetermined amount of image data is an amount of
image data corresponding to a partial region in the
document image.

8. The system according to claim 6, wherein the storing section comprising means which starts reading-out of data when the predetermined amount of image data has been stored in the memory.

9. The system according to claim 6, wherein the histogram creating section comprises means which keeps a total data amount of the density histogram constant irrespective of the amount of image data taken in.

10. An image processing method comprising the steps of:

storing image data indicating a density of each pixel within a document image into a memory;

taking in the image data indicating the density of each pixel within the document image to create a density histogram of the document image on the basis of a predetermined amount of image data;

calculating a set of correction reference values for pixel density correction using the density histogram; and

reading out image data stored in the memory to correct a pixel density indicated by the image data regarding all the image data read out using the set of correction reference values.

11. The method according to claim 10, wherein the predetermined amount of image data is an amount of image data corresponding to a partial region in the document image.